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The following is a complete listing of claims in this application.

1. (currently amended) A device to correct interference errors in a measuring installation (A), ~~that includes~~ comprising:

at least two magnetic sensors (1_1, 1_2) for measuring the position of mobile elements (2_1, 2_2) that are moving along adjacent trajectories, where each magnetic measuring sensor (S_1, S_2) delivers a measurement signal that is representative of the position of the mobile element in an open magnetic circuit (3_1, 3_2),

and resources (M) for processing the measurement signals delivered by the magnetic measuring sensors,

~~characterised in that~~ wherein the processing resources (M) include resources for correction of the magnetic measurement signals in order to take account of interference errors between the adjacent magnetic sensors (1_1, 1_2) with a view to obtaining a corrected measurement signal (S_{1c}, S_{2c}) for each magnetic measuring sensor.

2. (currently amended) A device according to claim 1, ~~characterised in that~~ wherein the correction resources correct the measurement signal (S_1, S_2) of each magnetic measuring sensor (1_1, 1_2) according to the value of the measurement signals of the magnetic measuring sensor concerned and of the other magnetic measuring sensors.

3. (currently amended) A device according to claim 1, ~~characterised in that~~ wherein the processing resources (M) deliver a corrected measurement signal for each magnetic measuring sensor such that:

$$S_{1c}=\sum_{i=1}^{n}\left(\sum_{j=0}^{i}\alpha_{ij}S_1^jS_2^{i-j}\right)$$

$$S_{2c}=\sum_{i=1}^{n}\left(\sum_{j=0}^{i}\alpha'_{ij}S_2^jS_1^{i-j}\right)$$

where α, α' are correction coefficients and n is the correction order.

4. (currently amended) A device according to claim 3, ~~characterised in that~~ wherein, for each magnetic measuring sensor (1_1, 1_2), the processing resources (M) deliver a corrected measurement signal such that for a correction order of n = 3, α, i, j and α' are such that:

$\alpha_{10} = a-c$, $\alpha_{11} = 1+c$

$\alpha'_{10} = a'-c'$, $\alpha'_{11} = 1+c'$

$\alpha_{20} = 0 = \alpha'_{20}$, $\alpha_{21} = \alpha'_{21} = 0$, $\alpha_{22} = \alpha'_{22} = 0$

$\alpha_{30} = -b$, $\alpha_{31} = 3b$, $\alpha_{32} = -3b$, $\alpha_{33} = b$

$\alpha'_{30} = -b'$, $\alpha'_{31} = 3b'$, $\alpha'_{32} = -3b'$, $\alpha'_{33} = b'$

where a, b, c, a', b', c' are correction coefficients so that:

$$S_{1c} = (1 + c)S_1 + (a - c)S_2 + 3bS_1S_2^2 - 3bS_1^2S_2 + bS_1^3 - bS_2^3$$

$$S_{2c} = (1 + c')S_2 + (a' - c')S_1 + 3b'S_2S_1^2 - 3b'S_2^2S_1 + b'S_2^3 - b'S_1^3$$

or

$$S_{1c} = S_1 + aS_2 + b(S_1 - S_2)^3 + c(S_1 - S_2)$$

and

$$S_{2c} = S_2 + a'S_1 + b'(S_2 - S_1)^3 + c'(S_2 - S_1)$$

5. (currently amended) A device according to claim 3, ~~characterised in that~~ wherein, for each magnetic measuring sensor (1_1, 1_2), the processing resources (M) deliver a corrected measurement signal such that, for a correction order of n = 1, the values of α, α', i, and j are such that: $\alpha_{10} = a$, $\alpha_{11} = a'$ and $\alpha'_{10} = a'$, $\alpha'_{11} = 1$ so that:

$$S_{1c} = S_1 + aS_2, \text{ and } S_{2c} = S_2 + a'S_1$$

6. (currently amended) A device according to claim 1, ~~characterised in that~~ wherein each measurement signal S_1 , S_2 is such that:

$$S_1 = \frac{S_a - S_b}{S_a + S_b}$$

$$S_2 = \frac{S_d - S_c}{S_d + S_c}$$

where S_a, S_b, and S_c, S_d are a pair of elementary measurement signals delivered by a pair of measurement cells mounted in the open magnetic circuit.

7. (currently amended) A measuring installation ~~characterised in that it includes~~ comprising:

- a first magnetic measuring sensor (1_1) delivering a first measurement signal (S_1) for the position of a first mobile element (2_1) that is moving along a trajectory (T_1), where the value of the first measurement signal (S_1) depends on the position of the said mobile element in an open magnetic circuit (3_1),
- at least one second magnetic measuring sensor (1_2) delivering a second magnetic measurement signal (S_2) for the position of a second mobile element (2_2) that is moving along a trajectory (T_2) adjacent to the movement trajectory (T_1) of the first mobile element, where the value of the second measurement signal (S_2) depends on the position of the said mobile element in an open magnetic circuit (3_2)
- and a correction arrangement according to claim 1.

8. (currently amended) A measuring installation according to claim 7, ~~characterised in that~~ wherein each magnetic measuring sensor (1_1, 1_2) includes resources (4_1, 4_2) for the creation of a magnetic flux in a direction perpendicular to the surface (5_1, 5_2) of at least one polar part from which there emanates a

magnetic leakage flux whose strength varies with the surface area of the polar part along the movement axis, where these magnetic flux creation resources (4_1, 4_2) are mounted to be movable by the mobile element, forming at least one magnetic gap (8_1, 8_2) with a polar part forming part of the open magnetic circuit, with each magnetic measuring sensor including at least one measuring cell (11_1, 11_2) mounted in a fixed manner in the magnetic circuit close to an end point of the trajectory so as to measure the magnetic flux delivered by the creation resources less a magnetic leakage flux appearing from the polar part and varying along the trajectory.

9. (currently amended) A measuring installation according to claim ~~7~~ 8, ~~characterised in that~~ wherein the magnetic flux creation resources (4_1, 4_2) of the two measuring sensors are mounted close to each other along parallel trajectories.

10. (currently amended) A measuring installation according to claim 8, ~~characterised in that~~ wherein each magnetic measuring sensor (1_1, 1_2) includes a second measuring cell (13_1, 13_2) mounted in a fixed manner in the magnetic circuit (3_1, 3_2) close to the other trajectory end point, so as to measure the magnetic flux delivered by the creation resources (4_1, 4_2) less the magnetic leakage flux.

11. (currently amended) A measuring installation according to claim 8, ~~characterised in that~~ wherein the magnetic flux creation resources (4_1, 4_2) are mounted to be movable in translation.

12. (currently amended) A measuring installation according to claim 11, ~~characterised in that~~ wherein the magnetic flux creation resources (4_1, 4_2) are composed of a radially or axially magnetised disk-shaped or annular element (14_1, 14_2) whose axis is parallel to the movement axis in translation.

13. (currently amended) A measuring installation according to claim 11, ~~characterised in that~~ wherein the magnetic flux

creation resources are composed of a series of at least four magnets (15_1, 15_2) whose directions of magnetisation are shifted, two by two, by 90°.

14. (currently amended) A measuring installation according to claim 11, ~~characterised in that~~ wherein the open magnetic circuit (3_1, 3_2) includes a second polar part (18_1, 18_2) placed opposite to the first polar part (5_1, 5_2) forming, together with the latter, a magnetic gap (19_1, 19_2).

15. (currently amended) A measuring installation according to claim 14, ~~characterised in that~~ wherein the second polar part (18_1, 18_2) is equipped with resources for creation of the magnetic flux (4_1, 4_2).

16. A measuring installation according to claim 14, ~~characterised in that~~ wherein the second polar part (18_1, 18_2) is formed by a tubular element fitted with the radially magnetised annular element (14_1, 14_2).

17. (currently amended) A measuring installation according to claim ~~13~~ 14, ~~characterised~~ in that wherein one or the other of the polar parts (5_1, 18_1 - 5_2, 18_2) has a plane profile designed to improve the linearity of the output signal delivered by the measurement cells (11_1, 13_1 - 11_2, 13_2).